

Application Number 10/687,336
Amendment responsive to Office Action mailed June 27, 2007

REMARKS

This Amendment is responsive to the Office Action dated June 27, 2007. Applicant has amended claim 50 and added a new claim 58. Support for the amendment may be found throughout Applicant's originally-filed application, including, for example, the paragraph beginning at line 28, page 26. Claims 50-58 are pending.

In view of the above amendments and the following remarks, Applicant respectfully requests reconsideration and withdrawal of the rejections presented in the Office Action.

Claim Rejection Under 35 U.S.C. § 103

The Office Action rejected claims 50-55 under 35 U.S.C. 103(a) as being unpatentable over Schulman et al. (US 6,088,608, hereinafter Schulman) in view of Brune (US 5,984,875, hereinafter Brune). The Office Action also rejected claims 56-57 under 35 U.S.C. 103(a) as being unpatentable over Schulman in view of Brune, further in view of Kumar et al. (US 6,416,471, hereinafter Kumar). Applicant respectfully traverses the rejection to the extent such rejection may be considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

While Applicant does not necessarily agree with the Office Action's findings, Applicant has amended claim 50 to further distinguish the presently claimed invention from the prior art and expedite prosecution of the pending application. Specifically, claim 50 as presently amended requires that the receiver determines a location for each sensor within an esophagus based on the identifier, and monitors the physiological parameter indicative of gastroesophageal reflux as a function of distance based on the signals and the locations.

The applied references, either alone or in combination, fail to disclose or suggest at least this limitation of Applicant's claim 50. For example, Schulman is directed to integrity tests for electrochemical sensors. In one embodiment of the invention, Schulman discloses performing integrity tests by comparing the outputs of multiple sensors located within the substantially the same tissue area to see if the data from the sensors agree.¹ For example, if five sensors are implanted near each other and measure the same substance, then when the data for all five

¹ Schulman, Col. 5, ll. 56-67.

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sensors is within about $\pm 20\%$, it is determined that all five sensors are working properly. However, if one sensor is outputting data that differs from the data output by the other four sensors by more than about 20%, it is determined that sensor is not functioning properly.

Thus, Schulman does not provide for monitoring the physiological parameter as a function of distance or location. For example, if the substance does, in fact, have a different value (i.e. greater than about 20% different) at the location of one of the sensors, this information will be overlooked according to the method Schulman, because the output of this sensor will be determined to be incorrect. Clearly, Schulman is directed to measuring substantially homogeneous substances at essentially a single location, not monitoring a physiological parameter as a function of distance, as recited in claim 50.

Brune and Kumar fail to provide any disclosure to overcome this deficiency in Schulman. For example, Brune is directed to a single sensor in each of a plurality of animal bodies. Thus, Brune clearly provides no disclosure about determining a location for each sensor within an esophagus based on the identifier, or monitoring the physiological parameter indicative of gastroesophageal reflux as a function of distance, as recited by claim 50.

Claims 51-57 are dependent of claim 50 and are in condition for allowance for at least the reasons identified above. In addition, the dependent claims add additional limitations that are neither disclosed nor suggested by the applied references.

As one example, claim 54 requires the microprocessor of each of the sensor to enable the RF transmitter of the respective sensor during the second interval and disable the RF transmitter during periods of each cycle other than the second interval and disable the pH monitor of the respective sensor during periods of each cycle other than the first interval. Claim 54 is dependent on claim 53, which requires the microprocessor of each of the sensors to periodically enable the pH monitor of the respective sensor during a first interval of each measurement cycle to obtain the pH signal and then disable the pH monitor during a second interval.

In rejecting claims 53 and 54, the Office Action found that the combination of Schulman and Brune does not explicitly disclose the microprocessor enabling the pH monitor during a first interval and then disabling the pH monitor during a second interval, while the RF transmitter is enabled during the second interval and disabled during periods of each cycle other than the second interval. The Office Action then characterized Brune as disclosing "a first interval which

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is defined as when the microprocessor 7 periodically enables the sensor to obtain a signal and a second interval which is defined as when the RF transmitter 9, 10 is enabled to transmit the signal.”² Finally, the Office Action found that it would have been obvious to modify the invention of Schulman et al as modified by Brune such that during the first interval the RF transmitter is disabled and during the second interval the pH monitor is disabled.

Applicant respectfully disagrees with the Office Action’s findings. The cited references fail to disclose or suggest this combination of enabling the pH monitor during a first interval and enabling the RF transmitter during a second interval. Specifically, the passage of Brune cited in the Office Action does not differentiate between a sensing interval and a transmitting interval. Instead the passage differentiates between a “sleeping” mode” and “data bursts cycles.”³ The “data bursts cycles” include both sensing and transmitting the temperature. Brune does not disclose or suggest that sensing and transmitting are separable, or that power may be separately provided to the sensing module and the transmitting module. Without Applicant’s disclosure, a person having ordinary skill in the art at the time of the invention would have found no motivation in the prior art of record to enable the RF transmitter of the respective sensor during the second interval and disable the RF transmitter during periods of each cycle other than the second interval and disable the pH monitor of the respective sensor during periods of each cycle other than the first interval.

For at least these reasons, the Office Action has failed to establish a prima facie case for non-patentability of Applicant’s claims 50-57 under 35 U.S.C. § 103(a). Withdrawal of this rejection is respectfully requested.

Rejection for Obviousness-type Double Patenting:

The Office Action provisionally rejected claims 50-54 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 33-34 and 37-38 of copending Application No. 10/687,298 in view of Schulman and Brune.

Applicant notes the provisional status of this rejection. Accordingly, Applicant will address this issue if and when the rejection is formally applied.

² Office Action dated June 27, 2007, page 5, item 12.

³ Brune, Col. 6, ll. 31-34.

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New Claim:

Applicant has added claim 58 to the pending application. The applied references fail to disclose or suggest the invention defined by Applicant's new claim, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention. As one example, the references fail to disclose or suggest a receiver which monitors a change in pH as a function of distance from a lower esophageal sphincter, as recited by claim 58. No new matter has been added by the new claims.

CONCLUSION

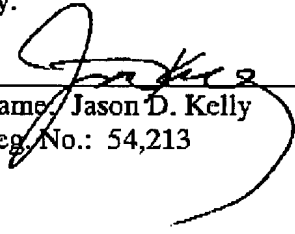
All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

9-27-07

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